

**CLAIMS:**

What is claimed is:

1. A method for preparing a job for execution by a batch job execution  
5 system, comprising the steps of:  
receiving a job from an external source, wherein the job includes at least  
one task;  
selecting a program, subsequent to receiving the job, which includes a first  
part and a second part, which may be used in executing the job;  
10 preparing a batch job by associating the selected program with the job; and,  
transmitting the batch job toward the batch job execution system.
2. The method of claim 1, wherein the first part of the program comprises:  
at least one step, wherein the step identifies a service which is offered by  
15 the batch job execution system which can be used in executing at least a portion of  
one of the tasks of the batch job; and,  
scheduling information, which organizes the order in which the steps may  
be performed by the batch job execution system and whether the steps may be  
performed independent of one another or in parallel with one another.  
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3. The method of claim 1, wherein the second part of the program is for  
executing at least a portion of one of the tasks of the batch job; and, is further

capable of generating additional steps to be executed by the batch job execution system in order to complete the task being executed.

4. The method of claim 1, wherein the program is selected from a plurality of  
5 programs stored in a library, wherein the programs are capable of being executed by the batch job execution system.

5. The method of claim 1, further comprising the step of, receiving a signal  
from the external source designating the program to be selected.

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6. The method of claim 1, further comprising the steps of:  
receiving a first signal from the external source, which identifies the input  
type of information included in the job;

receiving a second signal from the external source, which identifies the  
15 desired output type of information to be obtained when the job has been executed;  
and,

wherein the step of selecting a program is in response to receiving the first  
and second signal.

20 7. The method of claim 1, further comprising the steps of:  
determining the input type information included in the received job;

receiving a signal from the external source, which identifies the desired output to be obtained when the job has been executed; and,

wherein the step of selecting a program is in response to the steps of determining and receiving.

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8. A method for preparing a batch job for execution by a batch job execution system, comprising the steps of:

receiving a batch job comprising at least one task, by a first part of the batch job execution system, wherein the batch job may be executed using a plurality of service providers;

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determining for the tasks of the batch job a service type, offered by a service provider of the batch job execution system, which may be used for performing the task;

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creating a step for each task, wherein the steps comprise a first reference to the determined service type needed to perform the task, and a second reference to the task;

determining an efficient way to organize the created steps for execution by the batch job execution system;

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preparing a program which comprises the created steps, and the organization of steps for execution by the batch job execution system; and,

transmitting the batch job and the prepared program toward a second part of the batch job execution system.

9. The method of claim 8, wherein the step of determining a service type further comprises the step of, referencing a provider matrix, wherein the provider matrix comprises:

- 5 a list of services which are capable of being performed by the batch job execution system; and,  
a list of service providers which are capable of performing the services.

10. The method of claim 8, wherein the program is for, executing at least a  
10 portion of one of the tasks of the batch job; and, is further capable of generating additional steps to be executed by the batch job execution system in order to complete the task being executed.

11. A method for preparing and executing a task of a batch job by a batch job  
15 execution system, comprising the steps of:

receiving the task of the batch job which is to be executed by a service provider;

making a call to start a session with a remote platform, in response to receiving the task;

20 making a call to put, subsequent to making a call to start a session, which transfers at least a portion of the information in the task to be executed to the remote platform;

making a call to convert, subsequent to making a call to put, which instructs the remote platform to perform a function on the information transferred to the remote platform;

making a call to get, subsequent to making a call to convert, which retrieves  
5 the converted information from the remote platform;

repeating each step of making a call to put, convert and get until the task is completed; and,

making a call to end the session with the remote platform.

10 12. The method of claim 11, wherein the step of making a call to start a session further comprises creating a unique address which identifies the session; and the step of making a call to end the session terminates the unique address.

13. The method of claim 11, wherein the remote platform is operating on a  
15 Windows based machine; and the service provider is operating on a UNIX based machine.

14. A method for preparing and executing a task of a batch job by a batch job execution system, comprising the steps of:

20 receiving the task to be executed from a first portion of the batch job execution system by a second portion of the batch job execution system;

creating a plurality of steps, in response to receiving the task, which must be executed by a plurality of other service providers in order to complete the task;

transmitting the plurality of steps to be completed toward the first portion of the batch job execution system for execution;

5 receiving a plurality of results from the first portion of the batch job execution system once the plurality of steps have been executed; and,

preparing an output comprising the plurality of results.

15 15. The method of claim 14, wherein the first portion of the batch job execution system is a job management apparatus.

16. The method of claim 14, wherein the second portion of the batch job execution system is a service provider.

15 17. An apparatus for preparing a job for execution by a batch job execution system, comprising:

a client, which is capable of receiving a job from an external source, wherein the job includes at least one task, wherein the client is for:

20 electing a program which comprises a first part and a second part, wherein the program may be used in executing the job;

reparing a batch job by associating the selected program with the job; and,

transmitting the batch job toward the batch job execution system.

18. The apparatus of claim 17, wherein the first part of the program comprises:

at least one step, wherein the steps identify a service which is offered by the

5 batch job execution system which may be used in executing at least a portion of  
one of the tasks of the batch job; and,

scheduling information, which organizes the order in which steps may be  
performed by the batch job execution system and whether the steps may be  
performed independent of one another or in parallel with one another.

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19. The apparatus of claim 17, wherein the second part of the program is for:

executing at least a portion of one of the tasks of the batch job; and, is

further capable of generating additional steps to be executed by the batch job  
execution system in order to complete the task being executed.

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20. The apparatus of claim 17, wherein the program is selected from a plurality  
of programs stored in a library, which are capable of being executed by the batch  
job execution system.

20 21. The apparatus of claim 17, wherein the client is further for, receiving a  
signal from the external source designating the program to be selected.

22. The apparatus of claim 17, wherein the client is further for:

receiving a first signal from the external source which identifies the input type of information included in the job;

receiving a second signal from the external source which identifies the  
5 desired output type of information to be obtained when the job has been executed;  
and,

selecting a program based on the first and second signal, which includes information necessary for executing the job.

10 23. The apparatus of claim 17, wherein the client is further for:

determining the input type information included in the received job;

receiving a signal from the external source which identifies the desired output to be obtained when the job has been executed; and,

selecting a program based on input type and the desired output, which  
15 includes information necessary for executing the job.

24. An apparatus for preparing a batch job for execution by a batch job execution system, comprising:

a service provider, for:

20 receiving a batch job comprising at least one task, wherein the batch job may be executed using a plurality of service providers:



determining for the tasks of the batch job a service type, offered by a service provider of the batch job execution system, which may be used for performing the task;

5           creating a step for the tasks, wherein the step comprises a references to the determined service type needed to perform the task, and a reference to the task;

determining an efficient way to organize the created steps for execution by the batch job execution system;

10           preparing a program which comprises the created steps; and the organization of the steps for execution by the batch job execution system; and,

transmitting the batch job and the prepared program toward a job management apparatus.

15   25.   The apparatus of claim 24, wherein the service provider references a matrix, wherein the matrix comprises:

a list of services which are capable of being performed by the batch job execution system; and,

20           a list of service providers which are capable of performing the services.

26. The apparatus of claim 24, wherein the program is for executing at least a portion of one of the tasks of the batch job, and is further capable of generating additional steps to be executed by the batch job execution system in order to complete the task being executed.

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27. An apparatus for preparing and executing a task of a batch job by a batch job execution system, comprising:

a service provider, which is capable of receiving the task of the batch job which is to be executed wherein the service provider is for:

10 making a call to start a session with a remote platform, in response to receiving the task;

making a call to put, subsequent to making a call to start a session, which transfers at least a portion of the information in the task to be executed to the remote platform;

15 making a call to convert, subsequent to making a call to put, which instructs the remote platform to perform a function on the information transferred to the remote platform;

making a call to get, subsequent to making a call to convert, which retrieves the converted information from the remote platform;

20 repeating each step of making a call to put, convert and get until the task is completed; and,

making a call to end the session with the remote platform.

28. The apparatus of claim 27, wherein the remote platform is operating on a Windows based machine; and the service provider is operating on a UNIX based machine.

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29. An apparatus for preparing and executing a task of a batch job by a batch job execution system, comprising:

a service provider, which is capable of receiving the task to be executed from a job management apparatus, wherein the service provider is for:

10 creating a plurality of steps which may be executed by a plurality of other service providers in order to complete the task;

transmitting the plurality of steps to be completed toward the job management apparatus for execution;

15 receiving a plurality of results from the job management apparatus once the plurality of steps have been executed; and,

preparing an output comprising the plurality of results.

30. An article of manufacture including an information storage medium wherein is stored information comprising:

20 a client software component for:

receiving a job from an external source, wherein the job may be executed using a plurality of service provider software components;

selecting a program software component which references at least one of the plurality of service provider software components;

preparing a batch job software component by associating the selected program software component with the job; and,

5 transmitting the batch job software component toward a job management apparatus software component.

31. An article of manufacture including an information storage medium wherein is stored information comprising:

10 a service provider software component, which offers a service of conversion planning, wherein the service provider software component is for:

receiving a batch job software component;

separating the batch job software component into a plurality of tasks, wherein the tasks may be performed by a service provider software component of a batch job execution system;

15 determining for the tasks a service type, offered by one of the service provider software components, which may be used for performing the task;

creating a step for each task, wherein the steps comprise a references to the service type needed to perform the task and a reference to the task;

determining an efficient way to organize steps for execution by the batch job execution system;

preparing a program software component, which comprises the steps and information designating the organization of the steps for execution by the batch job execution system; and,

transmitting the batch job software component and the program software component toward a job management apparatus.

32. The article of manufacture of claim 40, wherein the service provider software component, which offers the service of conversion planning, references a provider matrix software component which comprises:

a list of services which are capable of being performed by the batch job execution system; and,

a list of service provider software components which are capable of performing the services.

33. The article of manufacture of claim 40, wherein the program software component is for, executing at least a portion of one of the tasks of the batch job software component; and, is further capable of generating additional steps to be executed by the batch job execution system in order to complete the task being executed.